REMARKS

Reconsideration and allowance are respectfully requested.

Claims 1-27 are pending. The amendments are fully supported by the original disclosure and, thus, no new matter is added by their entry. Entry of the amendments corrects informalities. They address the objection to claim 1, the Section 112 rejection of claims 1-25, and the Section 101 rejection of claims 21-22 and 25. Withdrawal of the objection, Section 112 rejection, and Section 101 rejection is requested.

35 U.S.C. 103 – Nonobviousness

To establish a case of prima facie obviousness, all of the claim limitations must be taught or suggested by the prior art. See M.P.E.P. § 2143.03. A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. *In re Kahn*, 78 USPQ2d 1329, 1334 (Fed. Cir. 2006) citing the legal standard provided in *Graham v. John Deere*, 148 USPQ 459 (1966). The *Graham* analysis needs to be made explicitly. *KSR v. Teleflex*, 82 USPQ2d 1385, 1396 (2007). It requires findings of fact and a rational basis for combining the prior art disclosures to produce the claimed invention. See id. ("Often, it will be necessary for a court to look to interrelated teachings of multiple patents . . . and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue"). The use of hindsight reasoning is impermissible. See id. at 1397 ("A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning"). Thus, a prima facie case of obviousness under Section 103(a) requires "some rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is correct." *Kahn*, 78 USPQ2d at 1335; see *KSR*, 82 USPQ2d at 1396. An inquiry should be made as to "whether the improvement is more than the predictable use of prior art elements according to their established functions." Id. at 1396. But a claim which is directed to a combination of prior art elements "is not proved obvious merely by demonstrating that

each of its elements was, independently, known in the prior art." Id. at 1396. Finally, a determination of prima facie obviousness requires a reasonable expectation of success. See *In re Rinehart*, 189 USPQ 143, 148 (C.C.P.A. 1976).

Claims 1-6, 9, 12-13, 19 and 23-24 were rejected under Section 103(a) as allegedly unpatentable over FIDIA (EP 0 555 898 A2). Applicants traverse.

The present application relates to derivatives between hyaluronic acid and at least one nitrogenated base, particularly a heterocyclic compound derived from purine and/or pyrimidine [0061]. Said derivatives of purine are chosen between adenine and/or guanine, while said derivatives of pyrimidine are chosen between thymine and cytosine [0009]. The derivatives according to the present invention are characterized by bonds of ionic type that are labile and readily hydrolyzed under mild conditions, also enzymatically [0003]. As an example, Guanine Hyaluronate (I) (Example 1) and Adenine Hyaluronate (II) (Example 2) have been prepared. A compound according to Applicants' claimed invention can be used in the cosmetic and/or in the pharmaceutical field.

The '898 patent discloses the use of hyaluronic acid as a vehicle in association with a pharmaceutical substance to provide an improved drug delivery system. New medicaments according to the '898 patent contain at least two components:

Component (1): a pharmaceutically active substance (including mixtures of different such substances) and

Component (2): hyaluronic acid and various salts of hyaluronic acid (page 3, lines 9-15; claim 1).

A list of possible pharmaceutical substances that fall within the definition of Component (1) are listed between pages 3 and 4 of the specification. As Component (2), hyaluronic acid or hyaluronic acid in the form of a salt with inorganic bases such as alkali metal, alkali earth metal, magnesium, or aluminum may be used. In addition to the above salts, it is also possible to utilize salts of hyaluronic acid with ammonium or substituted ammonium (amines) for example mono, di, tri or tetra alkylammonium (page 5, lines 32-41).

Instead, the '898 patent discloses a composition where two compounds must be present (i.e., Compound (1) and Compound (2)): Compound (1) being the pharmacologically active moiety and Compound (2) (hyaluronic acid or its salts) being the vehicle.

According to the present invention, hyaluronic acid is reacted with a purine or pyrimidine base and the obtained product as such, without the addition of any other pharmacologically active molecule, is used in the cosmetic or pharmaceutical field.

With respect to the '898 patent, the present invention does not relate to the association of two separate components, because it does not necessitate of any pharmacologically active molecule to be joined with hyaluronic acid or its salt. The new hyaluronic acid salt according to the present invention, is already active in the cosmetic and/or pharmaceutical field.

In summary, while the '898 patent discloses a two-compound composition where hyaluronic acid or its salts represent one of the two separate compounds, the present invention relates to a single compound that is a new and inventive salt of hyaluronic acid, pharmacologically active per se.

Claims 1-9, 11-12, 17-18 and 23-24 were rejected under Section 103(a) as allegedly unpatentable over Bellini et al. (WO 00/01733). Applicants traverse.

Bellini discloses amides of hyaluronic acid and derivatives thereof to prepare pharmaceutical formulations (page 3, lines 4-7). Amide derivatives can be obtained by reaction of an amine with a free carboxyl of hyaluronic acid (page 4, lines 8-9). The term "amide" means a group of the formula -CON= (page 5, line 4). Preparation of amides on the carboxyl of hyaluronic acid or a derivative thereof comprises activating the carboxy group by reaction of the same, in acid form or in the form of quaternary ammonium salt, with an agent such as carbonyldiimidazole, which converts carboxylic acid as a reactive form of an acylating agent (page 11, lines 28-30; page 12, lines 1-2).

Therefore, Bellini only discloses amide derivatives of hyaluronic acid. When it states that "they may be salified or simply associated with said compounds," it always refers to the already formed amide derivative (a covalent bond between hyaluronic acid and an amine derivative) and not to the hyaluronic acid itself. It appears the Examiner may be confused in interpreting Bellini. But if read carefully, and checked against the examples, it is clear that Bellini discloses reactions and salification products not with hyaluronic acid per se, but with its already formed amide derivative.

In view of the above, Bellini does not disclose a salt between hyaluronic acid and purine or pyrimidine bases. Instead, it discloses the preparation of an amide derivative between hyaluronic acid and an amine compound, thus forming a covalent bond of amidic type (-CON=). According to Bellini, these amide derivatives can be further salified to give salification product from the already prepared amide derivative.

Withdrawal of the Section 103 rejections is requested because the claims would not have been obvious to the ordinarily skilled artisan at the time Applicants made their invention.

Conclusion

Having fully responded to all of the pending objections and rejections contained in this Office Action, Applicants submit that the claims are in condition for allowance and earnestly solicit an early Notice to that effect. The Examiner is invited to contact the undersigned if any further information is required.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: /Gary R. Tanigawa/
Gary R. Tanigawa
Reg. No. 43,180

901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100